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Department of Energy

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DEC 09 1997

DOE-0224-98

Mr. James A. Saric, Remedial Project Manager
U.S. Environmental Protection Agency
Region V-SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

TRANSMITTAL OF COMMENT RESPONSE PACKAGE REGARDING THE RECYCLING SUPPLEMENTAL ENVIRONMENTAL PROJECTS

References: Letter, Saric to Reising, "Workplan for Recycling Supplemental Environmental Projects," dated November 6, 1997.

Letter, Schneider to Reising, "Workplan for Recycling Supplemental Environmental Projects," dated November 14, 1997.

Enclosed are responses to the U.S. Environmental Protection Agency (U.S. EPA) comments and Ohio Environmental Protection Agency (OEPA) comments (reference) on the draft Work Plan for Recycling Supplemental Environmental Projects (SEP). Based on these comments, the copper ingots have been removed from the list of material streams to be potentially released as part of the Recycling SEPs and, all related text has been deleted from the work plan. Also, due to EPA comments, additional discussion related to project costs has been added to the work plan. Lastly, the project schedule has been updated to more accurately reflect the anticipated time frames for project activities; however, these modifications have not altered the project completion date. The revised work plan, as a draft final, is also enclosed for your approval.

If you have any questions regarding the Recycling SEPs, please contact Kathleen Nickel at (513) 648-3166.

Sincerely,

Johnny Reising

FEMP:Nickel

Johnny W. Reising
Fernald Remedial Action
Project Manager

Enclosures: As Stated

cc w/encs:

N. Hallein, EM-42/CLOV
G. Jablonowski, USEPA-V, 5HRE-8J
R. Beaumier, TPSS/DERR, OEPA-Columbus
T. Schneider, OEPA-Dayton (total of 3 copies of encs.)
F. Bell, ATSDR
D. S. Ward, GeoTrans
R. Vandegrift, ODOH
F. Barker, Tetra Tech
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RESPONSES TO U.S. EPA COMMENTS ON DRAFT RECYCLING SEP WORK PLAN

1.) Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.1 Page #: 3 Line #: 13
Comment:
The text states that an additional 220 tons of rail will be removed using the strategies and decontamination and dismantlement (D&D) specifications outlined in the Operable Unit 3 integrated remedial design/remedial action work plan. However, the text in Section 3.1, Page 3, Lines 5 through 9, describes three projects that address another approximately 180 tons of existing site railroads. The three projects include: (1) the dismantlement of the boiler plant/water plant complex, (2) the dismantlement of the thorium/plant 9 complex, and (3) construction of the on-site disposal facility (OSDF) Haul Road. The text should be revised to describe the strategies that will be used to remove the 180 tons of steel rail from the three projects.

Response:
The final implementation plans for the D&D of the Boiler Plant/Water Plant Complex and the Thorium/Plant 9 Complex discuss the removal of approximately 180 tons of rail as part of the scopes of these two projects. Because of differences in project schedules, the subcontractor for the OSDF Haul Road construction project removed several segments of rail that were in the footprint of the Haul Road. Although the removal of different segments of the 180 tons of rail was (and will be) performed by different subcontractors, it was performed in accordance with the two approved implementation plans.

Also, it is important to note that ***all*** site rail, whether within the scope of current projects or out-year projects, will be removed in accordance with the OU3 Integrated RD/RA Work Plan (and the performance-based D&D specifications contained therein). That statement was specifically made about the additional 220 tons of rail in the draft Recycling SEP work plan because the removal of the additional rail was initially included within the scope of out-year projects (primarily Plant I - Phase II) and, therefore, does not have an associated implementation plan.

Action:
For clarification, the following statement has been added to Section 3.1: "The removal of the 180 tons of rail is governed under the corresponding EPA-approved project-specific implementation plans, which are consistent with the strategies and D&D specifications outlined in the Operable Unit 3 (OU3) Integrated Remedial Design/Remedial Action (RD/RA) Work Plan." Also, the colored z-fold map (Figure 1 of the Recycling SEP work plan) has been modified to show the OSDF Haul Road and the rail segments removed by the Haul Road subcontractor.

2.) Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.1 Page #: 3 Line #: 19
Comment:
The text states that the rail and angle bars will be size-reduced, released, and sold as scrap metal. The work plan does not discuss where and how rail and angle bar size reduction will be conducted. The text should be revised to include this information.

Response:
Size reduction of the rail and angle bars will be performed in situ by the D&D subcontractor. Since the D&D specifications are performance-based, the D&D subcontractor may select (with DOE approval) his preferred size reduction technique, which will likely be either torch-cutting, shearing, or a combination of both.

Action:
The text in Section 3.1 has been revised to include this information.

3.) Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.2 Page #: 3 Line #: 27
Comment:
The text states that "clean" copper ingots were produced for beneficial reuse. Because the copper ingots will be either disposed of in the On-Site Disposal Facility (OSDF) or released after development of release limits to address the minimal volumetric (mass) contamination contained in the ingots, it may be misleading to describe the ingots as "clean." The text should be revised to delete the word clean.

Response/Action:
Based on comments received from Ohio EPA on the draft Recycling SEP work plan, the copper ingots have been removed from the scope of the SEPs and all associated text regarding the copper ingots has, therefore, been deleted from the Recycling SEP work plan. However, if DOE elects to pursue copper ingot recycling outside of the SEP arena, future correspondence with the regulatory agencies and other stakeholders will not refer to the copper ingots as "clean."

4.) Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.0 Page #: Figure Line #: NA
Comment:
Figure 2, titled "Proposed/Existing MRF Location and R.R. Spurs," shows the rail within the boiler plant/water plant complex and the thorium/plant 9 complex. However, text in Section 3.1, Page 3, Line 6, discusses dismantlement of portions of existing on-site railroads within the scope of three projects, including the project involving construction of the OSDF Haul Road. Figure 1 should be revised to show the rail within the scope of the project involving construction of the OSDF Haul Road.

Response:
As discussed in the response to U.S. EPA Comment #1, the 180 tons of rail are within the scope of the Boiler Plant/Water Plant and Thorium/Plant 9 Complexes. Some portions of that rail have been removed by the OSDF Haul Road subcontractor (rather than the two D&D subcontractors) but the removed rail is still part of the Boiler Plant/Water Plant and Thorium/Plant 9 Complexes.

Action:
The colored z-fold map (Figure 1 of the Recycling SEP work plan) has been modified to show the OSDF Haul Road and the rail segments removed by the Haul Road subcontractor.

5.) Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.1 Page #: 6 Line #: 11
Comment:
The text states that after blasting, the baking soda and contaminant mixture will be washed away using additional water, stored, and subsequently treated. The text does not indicate how this washwater will be collected for storage or how decontamination of storage vessels will be performed. Text should be revised to include this information.

Response:
With the removal of the copper ingots from the scope of the Recycling SEPs, DOE has re-evaluated the need to relocate the soda blaster from the old location of the Material Release Facility (Building 78) to the new location (Building 68). It has been determined that the benefits of the less aggressive blasting technique do not justify the cost to relocate the soda blaster. Prior to dismantlement of Building 78 as part of the Thorium/Plant 9 Complex, the soda blaster will be removed from the building and placed in storage.

Action:
All discussions related to the soda blaster have been removed from the Recycling SEP work plan.

6.) Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.1 Page #: 6 Line #: 31
Comment:
The text states that after vacuum grit blasting, if the resulting waste requires stabilization, the stabilized waste will be sampled and characterized for toxicity characteristic leaching procedure (TCLP) metals, as well as for the radiological characterization requirements of the Nevada Test Site (NTS). The text does not indicate what activities will be conducted after sampling and characterization. The text should be revised to include this information.

Response:
Agreed. After stabilization and re-sampling, if the TCLP results indicate that the material should remain characterized as a RCRA hazardous waste, it will be reprocessed until it does not exceed the TCLP limits. Once the TCLP results indicate that the material no longer exhibits the characteristics of a RCRA hazardous waste, the material will be prepared for shipment to NTS by following site procedures for packaging, labeling, loading, and transporting low-level wastes to NTS.

Action:
As requested, Section 4.1 has been modified to include this information.

7.) Commenting Organization: U.S. EPA Commentor: Saric
Section #: 5.0 Page #: 7 Line #: 7
Comment:
The text states that all vendor bids will be evaluated, and if the bid is preferential to processing the metal through the MRF, a task order will be placed. The text in Section 2.0, Page 2, Line 17, indicates that DOE will use a life-cycle approach to determine if a vendor will

be used instead of the MRF. The text in Section 5.0, Page 7, Line 7, should be revised to describe the life-cycle approach that will be used to determine if a vendor or the MRF will be used to decontaminate and release materials for unrestricted use.

Response:
The term "life-cycle approach" used in Section 2.0 of the draft Recycling SEP Work Plan is meant to convey that, once vendor bids are received for a quantity of metal, DOE will compare the total and complete costs associated with the two options (i.e., off-site recycling vendor and FEMP MRF vacuum grit blaster). For example, the total and complete cost associated with the unrestricted release (or restricted reuse/recycle) of metal using a BOA vendor would include costs associated with:

- the preparation and maintenance of the BOA task order (i.e., vendor contract);
- the generation and size reduction of the metal (if necessary);
- the packaging and transportation of the metal to the vendor's recycling facility;
- the value of the BOA task order; and
- the treatment and disposition of secondary wastes.

In contrast, the total and complete cost associated with the recycle and unrestricted release of metal through the FEMP MRF would include costs associated with:

- the generation and size reduction of the metal (if necessary);
- the on-site transportation of the metal from the point of generation (or interim storage) to the FEMP MRF;
- the labor and materials required to vacuum grit blast the metal until unrestricted release standards can be met;
- the labor and materials required to demonstrate that unrestricted release standards have been met;
- the sale of the unrestricted release metal to a scrap metal dealer; and
- the treatment and disposition of secondary wastes.

Ordinarily, the return from the sale of the scrap metal is sent to the U.S. Treasury. Therefore, these funds cannot be directly reapplied to further remediation efforts at the FEMP. However, if the two recycling options (off-site vendor vs. MRF) offer a difference in the sale value of the metal, the return from the metal sale will also be included in the cost comparison of the options.

Action:
As requested, the preceding bulletized information has been added as a subsection to Section 5.0 entitled "Evaluation of Vendor Bids." Also, for clarification, the term "life-cycle approach" will be removed from Section 2.0 and replaced with a reference to the new subsection in Section 5.0.

8.) Commenting Organization: U.S. EPA Commentor: Saric
Section #: 7.0 Page #: 10 Line #: 22
Comment:
The text states that Table 3 identifies estimated project costs for decontaminating and releasing the identified types and quantities of metals discussed in Section 3. However, the text does not discuss methods and assumptions used to estimate project costs for the general activities listed in Table 3. The text should be revised to discuss detailed activities that will

be conducted to accomplish the general activities presented in Table 3. The text should also be revised to discuss how costs were developed for each detailed activity and the general activities presented in Table 3.

Response:
The estimates for metal processing are based on the assumption that a crew of three decontamination workers, two radiation control technicians, a fork lift driver, and a supervisor can decontaminate (using the FEMP MRF vacuum grit blaster) and perform free-release surveys on approximately 200 linear feet of rail per day or 180 square feet of I-beam surface area per day.

For the purposes of estimating, decontamination workers are assumed to be wearing Level C personal protective equipment (which may change depending on the level of contamination of the metal and the observed conditions within the MRF building once processing begins). Secondary wastes are estimated to be generated at a rate of one 30-gallon drum per month. There is also an allowance of $1,000 per month for blasting media and other consumables necessary to operate the vacuum grit blaster and air compressor.

It is important to note that these are rough estimates based on limited experience processing materials through the FEMP MRF. Actual project costs may differ significantly from the estimates shown in Table 3, and will be documented in the project completion report. More information concerning the cost estimates can be found in the response to Ohio EPA comment #1.

Action:
As requested, this information has been added to Section 7.0 of the Recycling SEP work plan.

RESPONSES TO OHIO EPA COMMENTS ON DRAFT RECYCLING SEP WORK PLAN

1.) Commenting Organization: Ohio EPA Commentor: OFFO

Comment: Code: M

The document does not provide sufficient cost justification. Additional data from on-site recycling efforts as well as vendor data should be provided. The cost calculations should take into account the value of the recycled steel as well as the costs saved from not having to undergo disposal. Based upon information Ohio EPA has received regarding recycling costs, disposal costs and recycled steel value during work on the Recycling Methodology effort, we believe the amount of steel that could be recycled for the SEP dollar value is approximately twice that proposed.

Response:

The response to U.S. EPA Comment #8 discusses the assumptions used to arrive at the cost estimates provided in Table 3 of the draft Recycling SEP work plan. Table 3 lists an estimated $485,000 to recycle approximately 785 tons of metal through the FEMP MRF (including treatment and disposal of secondary wastes). This estimate, which equates to 30 cents per pound, is comparable to the 27 cents per pound estimate used in the application of the Decision Methodology for processing Category A metals from Building 4A, the Plant 1 (Phase I) Complex, and the Boiler Plant/Water Plant Complex through the FEMP MRF. In contrast, vendor data compiled from past recycling projects, both at the FEMP and across the DOE Complex, indicate that it costs between 90 cents and $1.25 per pound to recycle straight structural steel (e.g., I-beams, C-channels, etc.) under a contract with an off-site recycling vendor. Note that these costs do not include "returns" associated with selling the metal as scrap, since any money received from metal sales is sent to the U.S. Treasury and cannot be re-allocated back to the Recycling SEPs.

It is also important to note that these are rough estimates based on limited experience processing materials through the FEMP MRF. Actual project costs may differ significantly from the estimates shown in Table 3. One clear advantage to pursuing a variety of metals and metal forms in the Recycling SEPs is to collect data on the processing of metal on a larger scale. For example, as discussed in Section 5.0 of the draft Recycling SEP work plan, DOE will ask for bids from prequalified vendors under the BOAs to pursue the most economical avenue to perform the work. Cost and performance data will be documented in the project completion report and, depending on the results, could affect the rates used in future applications of the Decision Methodology.

In addition to the $485,000, Table 3 also lists an additional $90,000 to plan the project, upgrade the compressor to support this large campaign, and develop a project completion report. The project activities that are estimated to cost $90,000 are necessary for the successful completion of the Recycling SEPs and are additional activities that were not already planned. Therefore, they have not been accounted for in estimates used in the application of the Decision Methodology.

Action:
As discussed in the response to U.S. EPA Comment #8, a discussion regarding the assumptions used in the development of the Table 3 estimates has been added to Section 7.0 of the Recycling SEP work plan.

2.) Commenting Organization: Ohio EPA Commentor: OFFO
Comment: Code: M
Considering both the national and state level implications of defining a volumetric release limit, it is Ohio EPA's opinion that recycling of the copper ingots is not an appropriate component of the SEP. The original SEP language did not mention the copper ingots or Ohio EPA would have raised this issue during the OU4 negotiations. Additionally, the SEP should be readily implementable and without significant regulatory hurdles. Ohio EPA believes both the stakeholder and regulatory issues associated with this component of the SEP make it unlikely to achieve a timely success. Ohio EPA does consider additional work/discussions, separate of the SEP, on the copper recycling issue to be warranted and likely valuable.

Response:
Since the process to obtain regulatory approval and public stakeholder acceptance for the authorized release of volumetrically contaminated metals is fairly new and untried, DOE agrees that the schedule established for the Recycling SEPs indicates that the SEPs may not be the best venue for recycling the copper ingots. DOE also agrees that the further pursuit of recycling the copper ingots, separate of the Recycling SEPs, is warranted and will, therefore, continue to work with the regulatory agencies and other stakeholders to obtain acceptance and approval to that end.

Action:
All discussions of recycling copper ingots under the Recycling SEPs have been deleted from the Recycling SEP work plan.

3.) Commenting Organization: Ohio EPA Commentor: ODH/OFFO
Comment: Code: M
Should DOE decide to pursue recycling of the copper ingots outside of the SEP, the following issues will need to be addressed:

a) The complete details for sampling and analysis of the copper ingots are necessary in order to lend credence to the assertion of volumetric uranium contamination of 4.25 pCi/g and no other radiological contaminants present.

b) Though reported values are low, typically radiological contamination surveys include count rates with associated errors in addition to contact dose rates.

c) To be compliant with ARARs, other regulatory agencies which may have purview over possible end uses of the copper should be contacted. One example is the FDA as one of the modeled scenarios, granted a low probability use, includes an internal medical device.

d) Two sources state differing values if the volumetric contamination were evenly distributed over the surface of each ingot. A value of 31 dpm/100cm^2 is stated in the September 1997

"Authorized Limits for Fernald Copper Ingots" while a July 1997 press release from Fernald titled "Copper Ingot Disposition Alternatives" gives a value of 11 dpm/100 cm^2. As reported, both of these would be well below accepted surface release limits. What is the technical basis for arriving at these values? Our calculations show a significantly higher number.

Response/Action:

As discussed in the response to Ohio EPA Comment #2, DOE agrees with Ohio EPA that the further pursuit of recycling the copper ingots, separate of the Recycling SEPs, is warranted. DOE will strive to provide satisfactory responses to comments and concerns received from regulatory agencies and public stakeholders regarding copper ingots during that pursuit. Responses to the four Ohio EPA comments on copper ingots will be provided in a separate transmittal.